Early Journal Content on JSTOR, Free to Anyone in the World

This article is one of nearly 500,000 scholarly works digitized and made freely available to everyone in the world by JSTOR.

Known as the Early Journal Content, this set of works include research articles, news, letters, and other writings published in more than 200 of the oldest leading academic journals. The works date from the mid-seventeenth to the early twentieth centuries.

We encourage people to read and share the Early Journal Content openly and to tell others that this resource exists. People may post this content online or redistribute in any way for non-commercial purposes.

Read more about Early Journal Content at http://about.jstor.org/participate-jstor/individuals/early-journal-content.

JSTOR is a digital library of academic journals, books, and primary source objects. JSTOR helps people discover, use, and build upon a wide range of content through a powerful research and teaching platform, and preserves this content for future generations. JSTOR is part of ITHAKA, a not-for-profit organization that also includes Ithaka S+R and Portico. For more information about JSTOR, please contact support@jstor.org.

INTERPRETATIONS OF RECENT ECONOMIC PROGRESS IN GERMANY

I.

IN concluding a brief analysis of the physical features of Germany, Werner Sombart gives vigorous expression to the convictions that dominate most Germanic interpretation of recent economic development. "This consideration", he says,

> like so many others, will doubtless strengthen the conviction that the physical features of a country can influence the development of social life only to a limited extent, and that the actual determinants of social growth are to be found in other factors. Is it not in fact astonishing, that a country like our beloved homeland—poor, despite the mediocre deposits of coal, iron, and potash[1]—should have given rise to a powerful state, whose position in the council of nations is notable, and whose recent development in wealth is envied of all? And that there should have grown up in the midst of the sandy wastes [of the Spree] a city which already begins to surpass the old capitals of Europe in wealth and activity, even if it does not yet surpass them in beauty and "*kultur*"*?* It captures the imagination to see such power come forth from natural resources so limited. I like to think of the well-known poster, made by Suetterlin for the Industrial Exhibition at Berlin in 1896, as the symbol of this new and powerful Germany—the muscular giant hand that breaks through the barren sands and swings the titan's hammer up towards heaven. For the hand of man has, as it were, created this great empire out of nothing—the hand guided by human intelligence.[2]

One must confess that this is an unusually thoroughgoing application of the doctrine of the will to power in the economic field, but it is none the less a characteristic interpretation of this recent growth in Germany. The parenthetical contempt poured out upon the mineral resources of the country is hardly consistent with many statistical analyses that have wide currency, and the inclusion of the potash deposits in the list seems to indicate that the author is carried away by the fervor of his rhetoric. With the exception of the potash, Veblen makes a comparable statement about the resources of Germany. "Beyond this [potash] Germany does not count even as second best in any of the resources on which modern industry draws."[3] The implications are therefore inevitable. The cunning of reason and the craft of the statesman have accomplished for Germany much that would be denied to her if purely natural forces had been the primary determinant of social growth.

---

[1] The original is somewhat stronger in expression, "*ein Paar* Kohlen, Eisenerz", etc.

[2] W. Sombart, *Die Deutsche Volkswirtschaft im 19ten Jahrhundert* (Berlin, 1909), p. 105.

The assumption that inferior resources can be given more than their "natural" significance by the arts of statecraft is definitely opposed to the tendencies of thought that have dominated the interpretation of economic history. It is to be hoped that economic history will ever avoid the excesses of a mechanically materialistic interpretation of social growth, but it would seem that one must put out to sea without chart or compass if one abandons the principle that economic growth is limited by natural resources. This is not a doctrine of rigid determinism, for natural resources may assume widely different degrees of significance under changing conditions of technique. There is a reaction between men and their environment in economic concerns that is no less significant than the reactions between biological organisms and their environment. Environment is characteristically a limiting factor, and although a particular society may fail to accomplish all that would be within the limits of the physical potentialities of the environment, it seems unscientific to assert that the will of man can make a powerful empire out of nothing. Students of economic history in France and England have endeavored to retain a doctrine of natural law that should form the basis for a scientific study of both theory and history. The German historical school has looked askance at the theory of natural law and at times perchance exaggerated the empirical element in historical development, but on this particular issue the leader of the historical school is explicit. In his general treatise Schmoller says:

> All these episodes show that the higher life of mankind is a conquest of nature by the mind. But they also show that man ever remains a parasite of earth, capable of great achievements only by adaptation, and by seeking out the most favorable places. Man does not emancipate himself from nature by his achievement of higher culture and technique, but becomes more closely bound to nature, ruling her through an understanding of her laws and nevertheless subject to these laws and to the limitations which they impose.[4]

Sombart's characterization of the resources of Germany, above, is of fundamental importance, for quantitative details are involved as well as scientific principles. The history of the iron and steel trade in the last half of the nineteenth century has been dominated by the development of two great deposits of ore: the Lake Superior deposits in the United States, and the Lorraine deposits in Luxemburg, France, and Germany. The remarkable extent of these great deposits is indicated by the following table.

---

[3] T. Veblen, *Imperial Germany and the Industrial Revolution*, p. 174.

[4] G. Schmoller, *Grundriss der Volkswirtschaft* (Leipzig, 1900), I. 138.

TABLE I.

Proportions of Ore Production in the Lake Superior and Lorraine Fields to the Total Product in each Country.[5]

Country	Year	Per cent. of total	Field
United States.........	1909	79.2	Lake Superior
Germany.............	1907	77.8	Lorraine
France...............	1908	88.0	Lorraine
Great Britain.........	1905	43.0	Cleveland

The figures for the Cleveland deposits of Great Britain have been included to indicate the reliance of that country upon a great number of deposits, no one of which occupies a commanding position. The influence of the Lake Superior and Lorraine deposits upon the production of pig iron may be studied in the following table.

TABLE II.

Production of Pig Iron in 1911.[6]

Country.	Metric tons (thousands).	Per cent. of total.
Germany (inc. Luxemburg)	15,574	24.31
France	4,470	7.00
United States	24,028	37.64
United Kingdom	9,700	15.23
Austria-Hungary	2,159	3.38
Russia	3,593	5.64
Italy	303	.47
Spain	409	.64
Belgium	2,106	3.30
Sweden	634	.99
Canada	832	1.30
Japan	64	.10
Totals	63,872	100.00

Germany and France produce thirty-one per cent. of the total product. The United States produces thirty-seven per cent. of the total. About eighty per cent. of these totals in the three countries is produced in the two great ore-fields, so that more than half (about fifty-four per cent.) of the total output of iron ore comes from these two deposits. It can easily be shown that the change in the position of the iron industry of Great Britain since 1880, both relatively and absolutely, has been primarily an outcome of the opening up of these great deposits. The Lake Superior ores began to be utilized about 1880. The Lorraine ores were well known, but could not be utilized to any appreciable extent until the process of Thomas and Gilchrist made it possible to apply the Bessemer process to ores containing considerable percentages of phosphorus. The first Thomas and Gilchrist patents were taken out in 1878, and the process was perfected and made commercially available about 1881, so that both fields were brought into the market at practically the same time. The basic process had been devised with reference to the Cleveland ores, but from the standpoint of international competition it was harmful rather than advantageous to England.

---

[5] *Iron Ore Resources of the World* (Inquiry of Eleventh International Geological Congress, 1910), I. 5; II. 624, 630, 672, 756.

[6] *Statistisches Jahrbuch für das Deutsche Reich* (1915), p. 36*, table 25.

The Lorraine ores are relatively poor in the technical sense, containing only thirty per cent. of metallic iron. At present, however, there are very few deposits of ore in Europe that contain much more than fifty per cent. of iron. In the United States the ore deposits are richer and the great extent of fifty per cent. ore in the Lake Superior region makes engineers in this country relatively indifferent to lower grade ores. They tend to think of the lower grade ores as a potential resource only. The Lorraine ores are thus "poor" in the absolute sense, and likely to be exhausted within a measurable period, but it is none the less true that this supply "is the basis of a tremendous modern development, both in Germany, in France, and in Belgium, overshadowing in importance and interest any other movement in the European iron industry".[7]

About half the resources now available in Lorraine lie within the boundaries of France. These resources were late in being developed, as they lie at considerable depth, whereas the ore-beds worked in Luxemburg and Germany outcrop and are handled by surface workings. It was long supposed that the deep-bedded ores of the basin of Briey (French) could not be profitably worked, but the energy of the French engineers has resulted since 1902 in a notable development in that basin, which in 1908 produced fifty-two per cent. of the total for French Lorraine. Except for this basin of Briey, the problem of utilizing the Lorraine ores was substantially similar to the problem faced in this country by those who undertook the exploitation of the ores of the Lake Superior region. In both cases the ores were far distant from any significant supply of fuel. This created difficulties that are real, and it would be ungracious as well as unjust to endeavor in any way to minimize the achievements of the men who brought these ores into practical commercial use. The mechanical facilities for transportation in each case required many innovations, and profitable reduction of the ores required many economies in production. At the same time, it is impossible to overlook the relation of the achievements to the physical quantities of ore available. There would seem to be legitimate grounds for presuming that the quantitative achievements, both in Germany and in the United States, reflect rather the character of the resources than either the merits or the defects of general state policy. Legislative and administrative policy has not been devoid of significance, but it would scarcely seem justifiable to seek a connection between the quantitative results and legislative policies. Policies have affected the incomes of producers and the prices paid by consumers. Tariffs and other forms of state interference may have hastened development, but these matters were not really involved in the issue suggested by Sombart and Veblen.

---

[7] C. W. H. Kirchoff, *Letters to the Iron Age* (New York, 1900), p. 11.

Veblen's thesis that the Germans are peculiarly apt at utilizing foreign inventions and ideas would seem to be illustrated by the fact that the basic process of steel manufacture invented by Thomas and Gilchrist has been more significantly exploited by Germany than by England. The invention, though used, in England has not resulted in any increase of the gross output of pig iron, whereas the production of Germany has increased nearly four-fold, from 4,937,000 metric tons in 1892 to 17,617,000 metric tons in 1912. It may be that such a growth is a reflection of peculiar capacity in the utilization of ideas, and yet it would seem simpler to explain the difference in results by reference to the character of the natural resources of the different countries. If the ore reserves of the Lorraine fields made available by this process were more than three times as great as the entire available reserves of Great Britain, it is well within reason to conclude that the introduction of such a process would have more significance in Germany than it could have in Great Britain, where the process was significant chiefly in the Cleveland district, which produces only about forty per cent. of the ore produced in Great Britain.

All attempts to estimate the ore reserves are subject to a variety of elements of error, and though great care was taken in the preparation of the reports and summaries on which the following table was based there must still be some qualification suggested. However, these figures represent the best effort that can be made, and, if not regarded as minutely accurate, are of real significance.

TABLE III.

Ore Reserves of the Principal European Countries.

Country	Ore, metric tons (thousands)	Per cent. of total Ore	Metallic Iron, metric tons (thousands)	Per cent. of total Iron
Germany	3,607	29.92	1,270	26 84
Luxemburg	270	2.24	90	1.90
France	3,300	27.43	1,140	24.10
(Total Lorraine)			[1,850]	[39.10]
Great Britain	1,300	10.81	455	9.61
Spain	711	5.91	349	7.37
Sweden	1,158	9.62	740	15.64
Russia (Europe)	864	7.18	387	8.18
Other countries omitted				
Total	12.031		4,732	

These figures would certainly explain the change in England's position as a producer of pig iron, and the transformations of her metal industries that have been an outgrowth of this relative diminution of pig iron production. The possibilities of securing ore and iron from Spain and Sweden are of course significant, but there is some loss of competitive power.

II.

A somewhat different phase of the tendency to emphasize purely human factors in German development appears in Naumann's recent book *Central Europe* (pp. 112–123, *passim*). "Something developed" in north and middle Germany, says Neumann,

> which in the course of time was to outdistance in method and efficiency the already existing capitalistic civilizations of earlier growth; a homely skill in the popular ability to transform dreamers into workers by the aid of letters and memory exercises. Thus, there grew up unconsciously and involuntarily the basal form of the second period of capitalism: a mechanism of work based on trained and educated workers. The capitalist employer of the earlier period developed, as Sombart shows us, in Upper and Central Italy, France, London, and Amsterdam and only came thence, like some foreign imported skill, to the Central European regions beyond. This capitalist finds and creates the chief centre of his world in London. From his standpoint there, at the height of his power, he threatens the type of capitalism that will succeed him: the new, more impersonal group-form of the new working humanity which began as individualist. . . .
>
> We have found a method of work in which now and for a long time to come no other European nation can imitate us, and which consequently the others do not regard as fair. It is this to which we have referred as the transition to the impersonal capitalism of the second stage, a process which with us has demanded about a century and a half of work and education. . . .

[8] *Iron Ore Resources of the World* (Inquiry of the Eleventh International Geological Congress, 1910), I. xxi, xxv.

> This new German type is incomprehensible to the individualist nations, to whom he appears partly as a relapse into past times of constraint, and partly as an artificial product of coercion that belies and overcomes humanity. . . . And thus there grows up from all sides a State or national socialism, there grows up the "systematized national economy". . . . The German is at last becoming heart and soul a political economic citizen. His ideal is and will be the organism and not free will, reason and not blind struggle for existence. This constitutes our freedom, our self-development. By its means we shall enjoy our golden age as the other conquering nations in other ages and with other abilities have done before us. Our epoch dawns when English capitalism has reached and overstepped its highest point, and we have been educated for this epoch by Frederick II., Kant, Scharnhorst, Siemens, Krupp, Bismarck, Bebel, Legien, Kirdorff, and Ballin.

It will be observed that Naumann's thesis is distinctly different from that of Veblen. It is admitted that there was some attempt to copy the capitalistic system of England, but this imitation was soon given up and a definitely original method of industrial and agrarian organization was built up on a German foundation that reaches back at least to the time of Frederick the Great. Naumann seeks the explanation of German progress in the forms of business organization, rather than in either temper and character or physical resources. This designation of German methods as a new kind of capitalism tends, however, to exaggerate the differences between forms of business organization in Germany and in other countries. It is not to be denied that there are differences, but they are differences of degree, not of kind. In state policy substantive differences are slight: there is still much of mercantilism in the policies of Great Britain and France, though these elements are not as frankly recognized as in Germany, nor as energetically defended. An apologetic attitude is apparent in non-German countries. We regard these survivals as a concession to the needs of practical politics, and some are perhaps beginning to believe that the earlier Liberal theories were guilty of some exaggeration. But Naumann's thesis does really turn on matters of general state policy; there is, indeed, an allusion to the social legislation in behalf of working men, but insurance legislation has ceased to be a distinctively German experiment.

The notion of there being a new kind of capitalism is very nearly, if not quite, original with Naumann. He refers to Sombart as if this notion were an integral part of Sombart's analysis of the growth of capitalism, but the reference is not justified by Sombart's major writings, or other works of his available to the present writer. This new kind of capitalism seems to be distinguished by its impersonality, its size, or the presence of elements of co-operation. None of these features are peculiarly German. The precise forms assumed by big business differ somewhat in the various countries, but in all cases there is much of that impersonality which Naumann finds so significant, and, though the legal forms are different and the government's policy more favorable, the large corporations in Germany are not significantly bigger than in Great Britain and the United States. Co-operation certainly cannot be deemed a peculiarly Germanic development. The successes in co-operation have been in different fields in the various countries, but there have been successes in all countries. It is not yet clear that co-operation can more than supplement the other modes of commercial and productive organization: it is barely possible that it is a mode of organization that will supplant the existing order, but the number of those who cherish such a belief is steadily diminishing.

These statements of Naumann, like the somewhat different statements of Sombart and Veblen, would seem to be guilty of much rhetorical exaggeration. The views expressed are not in accord with the special writing on the subjects involved; even German writers do not defend such theses. The critical literature does not divide into such sharply defined schools of thought.

III.

The danger of seeking an explanation of economic conditions in the character of the physical resources and their relation to the technique of the period lies in the temptation to forget that the character of technique is no less important than the resources. Attribution of importance to physical resources is likely to be converted into rigid determinism; but economic history is without meaning unless explanations can be found for the great changes in the economic equilibrium, and no principles of interpretation can have any value that cannot afford a significant account of the changes that take place.

No physical features are of absolute importance. Their economic significance is wholly dependent upon the technique of the age: including in technique, processes of production, facilities for transportation and communication, and perhaps in some measure modes of economic and social organization. The changes in economic importance that occurred during the Middle Ages were largely due to changes in trade-routes. The profound changes that began in the eighteenth century were due more particularly to changes in processes of production and transportation. The changes in methods of navigation which opened the oceans to extensive commerce towards the close of the fifteenth century, together with political changes in the Near East, resulted in the decay of Mediterranean commerce. The Italian towns ceased to prosper. Southern Germany was affected. Spain, Portugal, France, and England were favored by the change. The great export industry of the medieval and early modern period was the woolen industry. It is favored by an equable and humid climate, like that of northern England and the Flemish industrial district, now divided between France and Belgium. During this early period, too, the existence of an agricultural surplus was of prime importance. Cheap food is always an advantage, and at that time few districts could secure cheap food by importation. The principal industrial districts were thus the regions of great fertility which could produce a supply of food considerably beyond the requirements of the agricultural laborers. The very poor districts were also dependent upon some industrial work, but in such cases the industrial output was really a by-product produced during the months that were not devoted to agricultural labor. Industrial development was thus primarily determined or limited by the agricultural resources of the region. France and the Low Countries were therefore the most prosperous districts of Europe during the medieval period. The more fertile sections of England developed notable industries in the course of that period, and in Germany industrial prosperity likewise went hand in hand with agricultural wealth. On the whole, however, Germany was less prosperous than her neighbors.

An equilibrium became established, during the Middle Ages, on this basis, disturbed from time to time by some of the capricious developments of commerce in Spain and Portugal, but never entirely overthrown. Not until the movement of the Industrial Revolution in England had made signal progress was this general balance of economic and political factors entirely destroyed. The modifications of industrial and commercial technique completely altered every important aspect of the earlier economic equilibrium. The woolen industries were profoundly affected by the rapid development of the cotton industry. The phrase "Cotton is King", so frequently applied to our Southern agrarian economy, was no less true of the entire textile trade. This change upset completely all the established conditions in the textile districts of Europe. Improvements in transportation introduced the possibility of importing food on a large scale from great distances, so that the location of industrial districts was no longer primarily determined by agrarian conditions. Climate and power became the factors of primary significance. In a few instances this has involved no change. The industrial districts of Belgium and northern France are sufficiently favored by climate and provided with adequate fuel, so that the district still remains important. The rise of other districts has impaired the relative standing of this old textile region. The changes were of great significance to England, whose mineral resources and climate were well adapted to the new technique, so that a marked development of the textile industries was possible.

The transformation of the metal industries, however, has exerted a deeper influence upon the general balance of power and prosperity. Absence of statistics makes it impossible accurately to measure the relative importance of the different industrial groups before 1700, but it would seem safe to say that on the whole the metal group occupied a distinctly inferior position. Even in the mid-nineteenth century its position was relatively low, despite some growth under the stimulus of the earlier improvements in technique. The occupational enumerations for Great Britain and Prussia in 1851 and 1855 show clearly the comparative importance of the textile group. In Great Britain 35.7 per cent. of the persons engaged in industry were employed in the textile group; in Prussia, 34.4 per cent.

TABLE IV.

Occupational Groupings in England and Prussia, 1851 and 1855.[9]

England, 1851			Prussia, 1855	
Group	Thousands of Persons	Per cent. of total	Thousands of Persons	Per cent. of total
Textiles and clothing	1,720	35.78	417	34.41
Food	378	7.86	81	6.68
Mines	355	7.38		
Leather	332	6.90	173	14.27
Metals	322	6.70	113	9.32
Clay, stone, etc. (building inc.)	287	5.97	113	9.32
Wood-working	166	3.45	191	15.77
Paper and printing	50	1.04		
Chemicals	30	.62		
All other occupations	1,168	24.29	124	10.23
Totals	4,808	100.00	1,212	100.00

It is quite probable that the rapid development of the cotton industry more than kept pace with the expansion of the metal industry, so that the proportions indicated in 1851 and 1855 are roughly indicative of the general situation prior to the change. At all events, it would seem highly improbable that the textile group should have constituted much more than thirty-five per cent. of the total industrial population at any time, and the general references of the seventeenth and early eighteenth centuries would be consistent with that degree of preponderance over the other industries.[10] The relatively high position of the leather and wood-working groups in Germany is striking. They employed 14 per cent. and 15 per cent. of the total number of persons, and this is in many respects characteristic of the relations among the different industries in the earlier period. Although the figures do not cover the whole territory of the present German Empire they include so many of the notable industrial districts that the general results must be fairly typical.

---

[9] The figures for England are from the *Census* for 1851, II. c. The figures for Prussia are from Dieterici, *Statistik des Preuszischen Staats* (Berlin, 1861), p. 400. The figures have been arranged, as nearly as may be, in the forms of classification followed at the close of the century.

At the close of the century the changes wrought by the Industrial Revolution are clearly apparent.

TABLE V.

Occupational Groupings in the United Kingdom, 1907.[11]

Group	Cost of Materials (millions of pounds sterling)	Net Output	Per cent. of total Output	No. of Persons (thousands)	Per cent. of total Persons
Food, drink, and tobacco	197	89.5	12.51	463	6.64
Textiles and clothing	293	141.9	19.95	2,009	28.79
All metals	293	164.8	23.16	1,653	23.67
Timber	24	21.4	3.02	239	3.42
Leather, canvas, and India-rubber	26	8.6	1.22	84	1.20
Paper and printing	26	33.6	4.73	325	4.65
Chemicals	53	21.5	3.03	127	1.82
Clay, stone, and building	49	60.4	8.49	725	10.40
Mines and quarries	28	119.5	16.80	965	13.83
Miscellaneous	3	4.4	.63	46	.65
Public utilities	30	45.9	6.46	342	4.90
	1,028	712.1	100.00	6 984	100.00

In the United Kingdom, in Germany, and in the United States the metal industries have acquired substantially co-ordinate importance with the textile and clothing group. In the United States the metal groups lead the textiles by a considerable margin, especially in respect to the value of the product. In the United Kingdom and in Germany the textiles still lead by a narrow margin. The

---

[10] Occupational groupings in France and in British India afford further evidence to support this conclusion.

[11] Census of Production, Final Figures, 1912–1913, in *Parl. Papers,* 1912–1913, LXI. 21. [Cd. 6320.]

TABLE VI.

Occupational Groupings in Germany, 1907.[12]

Group.	Thousands of Persons.	Per cent. of total.
Foods	1,239	11.14
Textiles and clothing	2,393	21.53
All metals	2,057	18.50
Lumber	864	7.76
Leather	206	1.84
Paper and printing	438	3.93
Chemicals	172	1.54
Stone, clay, and building	2,333	21.00
Mining	860	7.72
Cleaning	254	2.27
Gardening, breeding, and fishing	154	1.37
Art work, music, and theatre	157	1.40
	11,095	100.00

TABLE VII.

Occupational Groupings in the United States, 1909.[13]

Group	No. of Persons (thousands)	Per cent.	Cost of Materials (millions of dollars)	Value of Product (millions of dollars)	Per cent. of total	Per cent. added by Manufacture
Foods	411	6.2	3,187	3 937	19.0	19.0
Textiles	1,437	21.7	1,741	3 054	14.8	43.0
All metals	1,779	27.0	3,213	5,399	26.1	
Lumber	907	13.7	714	1,582	7.7	54.8
Leather	309	4.7	669	992	4.8	32.5
Paper and printing	415	6.3	451	1,179	5.7	61.7
Liquors	77	1.2	186	674	3.3	72.4
Chemicals	237	3.6	867	1,430	6.9	39.4
Stone, clay, and glass	342	5.2	183	531	2.6	65.4
Tobacco	166	2.5	177	416	2.0	57.5
Miscellaneous	526	8.0	748	1,470	7.1	49.1
Totals	6,615	100.0	12,142	20,672	100.0	

leather industry in Germany has sunk to a low place in the general scale, likewise the wood-working group. The position of the stone and building trades in Germany seems to be very unusual, but this is due in part to differences in classification.

The position of the chemical industries is perhaps worthy of special attention because of the great emphasis laid upon the achievements of German science in this field. Only 1.5 per cent. of the persons employed in industry were in this group. Of course the numerical importance of the group is not an accurate indication of the importance of chemical knowledge to industry, but the small quantitative importance of the group should serve to emphasize the need of keeping carefully in mind the distinction between qualitative and quantitative problems.

---

[12] *Statistik des Deutschen Reichs,* Band 213.1 (1909), p. 28.

[13] *Census,* 1910, vol. VIII., p. 53, table 7.

The significance of the physical resources of the various European countries was profoundly altered by the Industrial Revolution. Agricultural resources ceased to be a determinant of industrial development; the textile industry thus became more exclusively dependent upon climate; deposits of coal acquired notable industrial significance; deposits of iron acquired more importance than ever before and a number of new features in the location and character of ore came to be of moment. Proximity to good coal was at first of fundamental significance; and the precise chemical composition of the ore was also vital at first. The rise of the metal industry to its new position of importance thus affected only a narrowly circumscribed group of ore beds at first, though increased facilities of transportation and the increased knowledge of metallurgy gradually widened the scope of commercially profitable exploitation.

These changes were, on the whole, definitely unfavorable to France, assuming the boundaries of 1871. Her textiles were somewhat less favorably situated and they had become less significant in the general industrial field. The development of metal industries was not possible on any great scale because of the lack of ores and coal. Germany was favorably affected, but the circumstances were such that she could not derive immediate benefit from the transformation of the general industrial field. The moderate agricultural resources ceased to be an obstacle to great industrial achievement. The widely scattered deposits of iron were variously affected. Many workings ceased to have any commercial value because of the composition of the ore. Other deposits became more important, and after 1880 the vast reserves of the Lorraine fields were made practically available. In general, the change in the basis of industrial wealth from agrarian to mineral resources opened up a future of great promise. The new situation was peculiarly favorable to England, and the influences of the change were felt somewhat sooner, partly because the new technique was developed primarily in England, partly because the resources of England were peculiarly adapted to utilization by the modes of production that were first brought into use. For a brief period of twenty or thirty years England enjoyed certain special advantages which gave her a unique position in international commerce and industry. The balance of power in Europe was thus doubly disturbed; first by this extraordinary pre-eminence of England, then again by the readjustment of the economic equilibrium brought about by the inevitable development of the great resources of Germany.

These changes were, in general, an outcome of the circumstances which dominated the development of the iron industry. All three countries, France, England, and Germany, had important textile industries, and while there are differences in climate they are scarcely of sufficient importance to give any country a decisive advantage. The newly acquired importance of the iron industry gave it peculiar significance, and the dependence of the industry upon ore reserves made it inevitable that there should be great readjustments in the international position of the various countries.

IV.

The lateness of the economic revival in Germany was not entirely due to the technical problems connected with the utilization of the Lorraine ores. The influence of the rise of the new iron industry was notable, affording a stimulus to the development of other industries, but the general revival was in no small measure an outcome of the revival of commerce under the influence of the relative freedom secured by the establishment of the Customs Union. In Germany, as in other European countries, the rise of the economic régime that we associate with the Industrial Revolution involved the destruction of much of the regulative impedimenta of the late medieval period. The reorganization of economic life was brought about by changes in technique, but the full effect of these changes could not be secured unless the Industrial Revolution were accompanied by an administrative revolution. There were extensive changes in constitutional organization and in the ideals of administration in France, in England, and in Germany; the reform movement differed widely in the various countries in its detail because the character of the obstructions varied, but in all three countries the movement was inspired by principles of liberalism.

The political reorganization of Germany has been accomplished primarily by Prussia, and there is some disposition to presume that military strength was the predominant influence in the rise of Prussia. The growth of Prussian military power was undoubtedly of importance, but it certainly was not the only factor in the displacement of Austria as leader, nor the only element of Prussian strength. The acquisition of leadership by Prussia was favored by the changes in international trade-routes. New circumstances placed Prussia in a position of marked strategic importance from the commercial point of view, and these elements of strength were brought into play by a steadfast adherence to liberal commercial policies that is perhaps too largely obscured by the short wars that brought the general movement to a close. It is well to remember, however, that the new régime was pretty firmly established before the acquisition of Schleswig-Holstein and before Sadowa.

During the Middle Ages, the German states fell into two large groups: the states bordering the Baltic, and the southerly states whose commercial and industrial concerns were with Italy and the Mediterranean countries reached by way of Italy. Of these groups the southerly group was by far the more important, both in industry and in agriculture. The northern states were relatively poor, and the league formed by the free cities of the region was fully as important as any of the territorial states. The more prosperous portions of Germany were thus identified with southern interests, and under these circumstances were naturally dominated by the most powerful southern state, Austria. Brandenburg occupied an ambiguous position between the district dominated by the Hanse and the industrial districts whose general connections were with the South. While this division of Germany endured the position of the Electorate was hopelessly weak. The decline of the southerly trade-routes, that was an inevitable consequence of the general decline of Mediterranean commerce in the sixteenth century, opened up new possibilities. In the end, the rise of oceanic commerce was fairly certain to make the northerly connection essential to the industrial districts of the South. The ports of the Rhine and Hamburg would become the primary outlets for the commerce of the south German states. The new possibilities revealed themselves slowly. During the seventeenth and eighteenth centuries the industrial states were without any clearly advantageous outlet. Commerce and industry were moribund. The devastation of the Thirty Years' War made an end of many of the older connections and there was not sufficient advantage in new connections to stimulate industry or commerce to new efforts. The stagnation was if anything more complete than in Italy.

These disturbances were of importance politically. The strength of Austria was undermined. The position of Brandenburg became strategically important in a small way, from the point of view of both commerce and politics. The old order had been destroyed, and among all the ambiguities of the time there were many opportunities for an astute politician. "Particularismus", however, was the order of the day, not only because it was the heritage of the Holy Roman Empire, but also because there were no bonds of common economic interest to afford a basis for any permanent combination of the several states. The uncertainties of this period are an evident reflection of the precise character of the various elements in the location of Berlin. The tendencies toward centralization of commerce in Germany emerge later than in France or England, and, even when they are revealed, there were elements of ambiguity that made the movement less spontaneous. For a long period the influence of the great change in trade-routes was for Germany purely negative: the old connections were destroyed and nothing took their place.

The reorganization of German commerce did not begin until the reform of the system of indirect taxes in Prussia opened the question of a general reorganization of the customs duties and gave signal importance to the domination of the northerly trade-route by Prussia. The accise system which had prevailed in most of the German states was a most serious obstacle to commercial development, and, combined with the particularism of the eighteenth century, doubtless retarded any considerable revival of trade. The destruction of this vicious system was one of the most important accomplishments of liberal statesmanship in Germany.

The accise duties were in a way similar to the octroi duties now levied in many European municipalities, but the resemblance is largely superficial. The duties were levied on goods consumed in the town, on goods brought into the town, and on goods passing through the town. They were practically the only indirect taxes levied by the state and were levied for the state rather than for municipal purposes. Both the duties on consumption and the duties on circulation established unfortunate barriers between town and country. They were a fairly complex protective system with the towns as the unit of administration. This system of taxation gave rigid definition to the divergence of interest between the landed gentry and the middle-class artisans and traders of the towns. Industry was confined to the towns, and freedom of choice of occupation between industry and agriculture was considerably curtailed. Trade between the towns was hampered by the restrictions in favor of local industries.

The reforms of Stein, the Tariff of 1818, and the Customs Union are bound together by many common purposes. The later reforms are an outgrowth of the Edict of 1807. The break-down of the barriers between town and country contemplated by the edict could be given full effect only by complete abolition of the accise system. The accise could be supplanted only by some system of customs duties levied at the borders of the state. Once a system of border customs was established the irregularities of the frontier would precipitate negotiation with the neighboring states and the enclaves.

All these consequences were appreciated at the outset. The general question of the customs frontier was discussed at the Congress of Vienna and the Prussian representatives at first hoped that definite results could be accomplished there. The jealous insistence on full sovereign rights by the moderate-sized states under the lead of Austria prevented the creation of a federal customs system. Once this hope was destroyed, Humboldt realized that the achievement of common institutions would come through negotiations with the individual states. "The policy of Prussia", he writes, "will consist in bringing her neighbors to accept to a certain extent her political and administrative system."[14] The new policy was more completely revealed by the letter of Hardenberg to the merchants of Ried, June 3, 1818.

> The difficulties arising from the scattered position of the Prussian states and from the length of their borders, the advantages that would accrue from a union of several German states in a common industrial and commercial system, have not escaped the attention of the government. These matters turn on obvious relations. The plan which has just been endowed with the force of law [the tariff of May 26, 1818] has been matured with specific reference to these problems. It is no less within the spirit of this plan to retaliate against foreign discriminations, than to reward a spirit of reciprocity and a neighborly disposition to unite for the common good.[15]

For historical purposes the implications with reference to the relation of the tariff to the Customs Union are more important than the suggestion of retaliatory duties in the general system. It is perhaps worthy of note that the letter is an attempt to defend the government in its adoption of such a measure of free trade. However, the duties on imports are less significant than the freedom of trade within the customs area. The primary advantage that Prussia could offer to the other states was this freedom of circulation within the bounds of the customs system.

The story of the negotiations among the various states during the decade 1820–1830 cannot be compressed without losing much of its significance,[16] but it will perhaps be possible to call attention to the influence of Prussia's location in bringing these negotiations to a successful conclusion. The southern states were not at this period dangerously antagonistic to Prussia. For a variety of reasons they could be brought to co-operate. The chief obstacle lay in the hostility of Saxony, Electoral Hesse, and Hanover. These states soon began to draw together to form an organization which should compete with the Prussian Customs Union. It is worthy of note that the failure of this project was due to the situation of Prussia rather than to political or military preponderance. The Middle German Customs Union would have made it necessary for Saxony to use a relatively circuitous route in gaining access to the sea. Some preparations were made to work out the details of a trunk-line route which should remain entirely outside the Prussian customs frontier. With reference to such tactics Prussia enjoyed a superior position which she was able to turn to the complete discomfiture of the middle states. In March, 1829, a preliminary treaty was signed with Bavaria and Württemberg. By negotiations with some of the tiny Saxon states lying between Brandenburg and Württemberg Prussia succeeded in establishing a route to the south that would practically isolate Saxony. The southern states could send and receive goods without passing through the kingdom of Saxony. The trade of Saxony was also threatened by the establishment of a fair in Prussian territory designed to compete with the fair at Leipzig. These measures exerted a pressure upon Saxony that she could not resist, and in 1830 negotiations with Prussia were begun. The withdrawal of Saxony from the combination of middle states practically sealed the fate of that project. In August, 1831, Electoral Hesse came over to Prussia, linking up the Rhine Province with Brandenburg. This ensured the ultimate success of the Prussian Customs Union, which in its first form was embodied in the group of treaties that became effective January 1, 1834. In all these complications the Prussian ministers displayed much clearness of vision, and a firmness that contributed largely to their ultimate success, but these things could never have been accomplished if the position of Prussia had not contained elements of strength that forced the recalcitrant states to come to her and ask to be included in the Union.

---

[14] H. von Treitschke, "Die Anfänge des Deutschen Zollvereins", in *Preussische Jahrbücher,* XXX. 409 ff. Citation in text is at p. 417.

[15] Treitschke, *op. cit.,* p. 422.

[16] *Ibid.,* especially pp. 498–508, 543–563.

Soon after the formation of this Customs Union the protectionists began an agitation for the abandonment of the general free trade policy.[17] The strength of the movement was in the South, and, when it became obvious that no change of policy could be brought about unless the balance of power in the Union were altered, the admission of Austria suggested itself at once. The joint issue of protection and the admission of Austria nearly disrupted the Union, but in both of the most acute crises the protectionists were speedily brought to terms by a threat from Prussia to denounce the existing treaties and return to the old policy of negotiation with individual states. On the last of these occasions (1862–1863), Prussia had signed a reciprocity treaty with France so liberal in its terms that Austria could not possibly accept it. The acceptance of this treaty by the members of the Customs Union was secured by pressure and the exclusion of Austria assured. The present empire was established before the treaties again came up for renewal.

---

[17] This episode is most significantly treated by E. Worms, *L'Allemagne Économique* (Paris, 1874), pp. 147 ff.

The free-trade policy maintained by Prussia through this period was thus a significant factor in the exclusion of Austria from the Customs Union. The formation of that union was the outcome of Liberalism in commercial policy and the preservation of its character as a North German grouping of states was also due to the policy of free trade. There is no reason to suppose that there was any insincerity in this adherence to free trade; there were political advantages to be gained, to be sure, but it was the natural Prussian policy. The agrarian interest there, as in the southern part of the United States, was primarily concerned with the accessibility of foreign markets. This general disposition of Prussia was rendered doubly important politically by the preponderant influence of the Junkers as a class. By prejudice and conviction they were free-traders and remained true to the ideal until the competition of American wheat began to depress the revenues of the great estates. It was possible to introduce a protective tariff in 1878 because the agrarians were losing faith in the old principles.

The great reconstruction of the first half of the nineteenth century was dominated in Germany by liberal thought. The constitutional system was autocratic but the policies followed differed but slightly from the policies followed in other countries during similar periods of reconstruction. The destruction of the outworn framework of the Middle Ages has been the accomplishment of liberal ideals, and the foundation of the modern social system rests in all countries on this common foundation. Even in the hands of autocratic governments these principles have been a regenerative force.

ABBOTT PAYSON USHER.